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NEWCASTLE DISEASE

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IN POULTRY

HOW TO CONTROL IT

LEAFLET NO. 451
U.S. DEPARTMENT OF AGRICULTURE

NEWCASTLE DISEASE IN POULTRY

How to Control It

Newcastle disease is a highly contagious virus disease of poultry. Each year it kills many millions of chickens.

Newcastle virus attacks chickens of all ages. Turkeys also are susceptible; geese, ducks, and other barnyard fowl may be affected.

The disease may strike either the respiratory or the nervous system. It appears suddenly and spreads rapidly. Signs are visible 2 to 14 days after infection; the average time for appearance is 5 days.

All infected young chickens may die. Death losses among laying birds usually are considerably lower than among young chickens. Production and quality of eggs from surviving birds usually fall sharply. Eggs from a breeding flock may not hatch. Fifteen to 20 percent of turkey poults die.

HOW IT SPREADS

Newcastle disease is spread by direct contact through body discharges of infected birds. Droppings and semen from infected birds carry the virus. Secretions from nostrils, mouth, and eyes may contaminate feed and water. An entire flock may be infected in 3 or 4 days.

The virus appears in nasal secretions, saliva, and droppings 1 or 2 days after infection. Birds that survive the disease may continue spreading the virus for 3 or 4 days.

Newcastle virus seldom is transmitted from an infected hen through her egg to the chick; few infected eggs hatch. Virus on the surface of dirty eggs can contaminate the hatchery or incubator. Infection may be spread by breaking infected eggs.

The virus can be carried by poultry buyers, feed delivery men, and other people whose business takes them from farm to farm. It is carried on shoes and clothing, reused feedbags, and improperly cleaned and disinfected poultry crates.

Newcastle virus is dependent upon living tissue for survival and reproduction. Outside the bird's body, heat, light, and moisture kill it. In the farmyard—on feedbags, egg flats, feathers, and eggshells—it may survive 2 to 8 weeks.

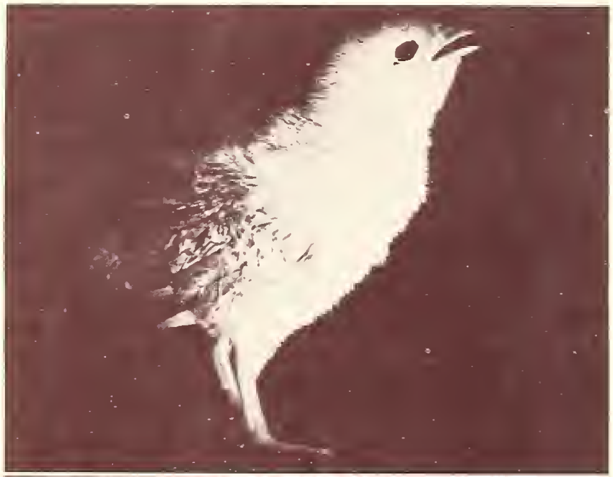
WHAT TO LOOK FOR

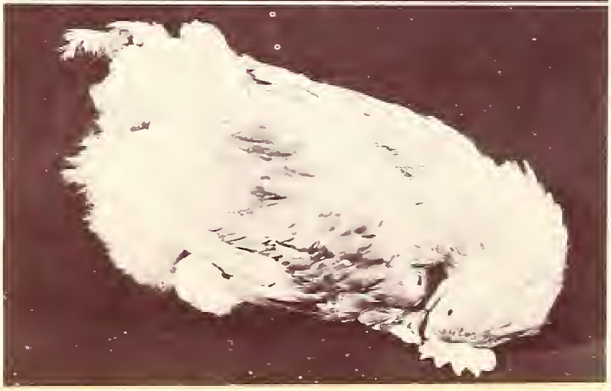
In chicks and broilers having the disease in the respiratory tract, early signs of Newcastle disease resemble those of infectious bronchitis and laryngotracheitis.

- The first signs are difficult breathing and gasping.
- Some chicks make a peculiar shrill cry that may be heard above other sounds in a poultry house.
- The birds are inactive and weak.

Gasping and difficult breathing are first signs of Newcastle disease when respiratory tract is affected. (All photographs, courtesy of Virginia Polytechnic Institute.)

Below: Bird showing typical nervous symptoms of Newcastle disease lies on side and makes circling movements with head.





Bird infected with Newcastle disease cocks head to one side.

- Nervous disturbances also may indicate Newcastle disease.
- Birds may lie on their sides; one or both legs or wings may be paralyzed.
- Birds may somersault or twist and contort head and neck.
- Head tremor is common.

Newly infected adult birds stop eating and show respiratory difficulties.

The signs in turkeys are similar to those in chickens, but generally are less severe.

Signs of the disease in a laying flock are—

- Egg production stops suddenly; it may be interrupted 4 to 8 weeks. Recovery is gradual.
- Eggs with soft or rough shells may be laid on the henhouse floor.
- Eggshells may be off color.
- Birds may molt more heavily than normal.

Paralysis occurs more frequently in chicks and broilers than in layers. Death rates are much lower in laying flocks.

Caution.—People occasionally get an eye infection from Newcastle disease virus. For treatment, see your doctor.

A laboratory examination is necessary to diagnose Newcastle disease accurately.

If any signs of Newcastle disease appear in your chickens, take two or three sick chickens to the nearest poultry-diagnostic laboratory or to the veterinary department of your State agricultural college. Dead birds may be shipped in refrigerated (with dry ice) and sealed containers. Disinfect the outside of the container before shipping.

VACCINATION

Two types of vaccine—killed virus and live virus—will protect poultry from Newcastle disease.

Chicks are immune to Newcastle disease for 2 to 4 weeks after hatching if the parent hens were immune to the disease.

Killed-virus vaccine does not produce active disease. The bird gets substantial immunity from a single dose of vaccine. Immunity may develop within a week after vaccination, although 2 to 3 weeks are required for maximum protection. Usually, immunity begins to wear off 6 to 8 weeks after a single injection of vaccine and gradually is lost. Revaccination, 4 or more weeks after initial vaccination, strengthens and prolongs immunity.

When you vaccinate, follow manufacturer's instructions carefully.

Some live-virus vaccines can be given to day-old chicks; revaccination of these chicks in about 5 weeks is recommended.

Live-virus vaccines can be dropped in the eyes and nose, sprayed or dusted for inhalation, or added to drinking water.

One live-virus vaccine is injected into the wing web of chicks older than 4 weeks.

Caution.—Live-virus vaccine may cause shock or even death in young chicks or weak birds of any age. Live-virus vaccine may introduce Newcastle disease into previously clean flocks and areas.

HOW TO PREVENT AN OUTBREAK

Treatment is not effective in Newcastle disease. Keep the disease out of your flock by good poultry management.

- Birds exhibited at poultry shows or egg-laying contests where Newcastle disease existed should be held in isolation before being returned to the flock. If isolation facilities are lacking, the birds should be marketed.

- Insist that your feed dealer use new or disinfected bags.
- Use disinfected crates and cases for poultry and eggs.

HOW TO HANDLE AN OUTBREAK

If Newcastle disease breaks out in your flock—

- Burn or deeply bury dead birds.
- Isolate recovered birds; they may be infective to susceptible birds for 3 to 4 weeks.
- Keep visitors away from contaminated areas.
- Take manure to fields that will not be used for poultry.

MANAGEMENT AFTER OUTBREAK

After a Newcastle disease outbreak—

- Market for slaughter unthrifty surviving birds.
- Remove all litter and manure from poultry houses and yards. Clean the poultry house by washing walls and floors thoroughly. Then spray the house with a disinfectant that is effective against the virus of Newcastle disease. Contact your county agricultural agent for the names of recommended disinfectants.

> CAUTION.—If handled or applied improperly, disinfectants that are effective against Newcastle virus may also be injurious to humans, poultry, and livestock. Use these disinfectants only when needed; handle them with care. Heed all precautions and follow directions on the label.

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